

Victorian Sericulture in Georgia

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Evolution and the Industrial Revolution

Professor Senf

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This report is fascinating and I learned a great deal from your report and presentation. In fact, my relatively few comments have mostly to do with grammar (and occasionally with organization). A more substantive criticism is of your use of the Magid papers. Even though you rarely quote from the papers themselves, you need to point other readers to your sources of information.

I. INTRODUCTION

Legend has it that the Chinese Empress So-Ling Chi, wife of the First Emperor Hong Di, reared the first silkworms, reeled the first silk and ^{wool}weaved the first garment from this delicate fabric some five thousand years ago. For much of antiquity silk ^{was}has been a luxury commodity in the East and a much sought after symbol of wealth and power in the West. As such, silk may well have been the first globally traded commodity. The famed “Silk Road” that once meandered through the inhospitable Gobi desert and the vast Asiatic steppes crossed no less than seventeen modern nations to bring precious silk to *Interesting* the global marketplace. The cities and cultures that grew up along this ancient artery of culture are a lasting tribute to this first era of “silk globalization”.

Even though silk was known in the West for much of history, sericulture and the large scale production of silk garments in the ^{are}west ~~was~~ a relatively recent phenomenon that coincided with the onset of industrialization in the Victorian age. After the industrialization of cotton textile production, Italy, Britain and France were keen on breaking the Oriental monopoly on the labor intensive silk trade through the application of contemporary science and mechanization. As a recent member of the elite club of ✓ global economic superpowers in all manufacturing industries, silk included, American government and industry organizations pursued ~~in parallel~~ both experiments in scientific sericulture and mechanized production of silk apparel from imported raw materials. In this report we examine an attempt by Thomas Magid to start a unique ✓ sericulture colony in the state of Georgia that produced quality silk from scratch in an agricultural and industrial community of immigrant workers. The Magid sericulture company’s focus on the complete sericulture production cycle and introduction of skilled foreign labor were innovative concepts and provides us with ^{both}a glimpse of a slightly different take on industrial developments in the United States and an insight into the industrialization efforts in Georgia at the turn of the nineteenth century.

II. HISTORY OF SERICULTURE

The Silk Road opened around the first century BC and stretched from Eastern China to the Mediterranean. By the middle of the first century AD, writers in Rome were complaining about the revealing silk garments that “rendered women nearly naked” in the *source*

However,
streets. ~~But~~ the early Romans never learned the secret of sericulture, and the poet Virgil even thought the thread was derived from the fuzz of leaves.

In spite of their secrecy, however, the Chinese were destined to lose their monopoly on silk production. Sericulture reached Japan by the third century AD and traveled westward. The Roman emperor Justinian ^{ed}learn~~ed~~ the secrets of sericulture in 522 AD. The next millennia saw Central Asia and Eastern Europe becoming important producers of silk for the European market. The centers of silk manufacturing would shift again in the 18th and 19th centuries during the time of the industrial revolution.

England by the 18th century led Europe in silk manufacturing because of her innovations in the textile industry. These innovations included improved silk-weaving looms, power looms, and roller printing. These advances set the trend for mechanized and scientific silk production. However, even as segments of silk production became mechanized, the rearing of silkworms and the tedious task of drawing silk threads from their cocoons remained largely manual. The largest raw silk supplier in Europe was the relatively under-developed Italy, ^{which} ~~accounting~~ ^{ed}for roughly 20% of ~~the~~ world production at the time. China and Japan at the time still produced about 62% of the world's silk. The labor intensive elements of sericulture would have significant implications for the nascent American silk industry.

II. AMERICAN SERICULTURE

Sericulture was introduced to the American colonies at their inception. But the small-scale pre-revolution experiments in the 1700's were largely unsuccessful. In 1831, an influential manual on sericulture was published by J.H. Cobb, which inspired a determined effort to establish silk culture in the United States. Anticipating a most profitable investment, thousands of individuals planted Mulberry trees on large areas of valuable land. The investments far exceeded possible returns, and heavy frosts destroyed plantations of trees. Failures and great disappointments led silk culture to be practically abandoned all through the States. Even though the Civil War and the absence of southern cotton briefly rekindled interest in sericulture in the Union, experiments in Boston and other northern states not ideal for silkworm growth again proved unsuccessful.

The United States after the Civil War was eager to recover and move forward as one nation again. In the late Victorian era, America emerged for the first time onto the world stage as a prominent power. This was a time of great optimism and expansionism in the American nation, culminating with the US purchase of Alaska and victory in the Spanish American War. American fascination with products from far away destinations coincided with the beginning of the globalization of the national economy and colonial and economic expansions overseas ((The Philippines and Cuba). As America looked outward, experiments in exotic agriculture like Turkish figs, Spanish almonds, and Algerian dates were actively pursued at home under the auspice^s of the Department of Agriculture. Developing an indigenous silk industry to combat European industrial dominance and Oriental material monopoly was viewed again as an important national effort. In the 1890's, congress allocated funding for the creation of silk experimentation labs around the country. Under HR1969 proposed in 1901, Congress passed an act to "encourage silk culture for industry and other purposes" and the establishment of the first *source* experimental station with a ten thousand dollar budget. Simultaneously, the American diplomatic service ordered its oversea missions to collect information related to sericulture and silk manufacturing. The State Department compiled their findings in the "Special Consular Reports on Sericulture and Silk Reeling" and distributed it to interested farmers and industrialists. The government also encouraged small-scale experimentation by providing farmers with free mulberry seedlings and silkworm eggs, as well as guarantees to purchase silk cocoons at the market price, provided that ~~they~~ *ref* take careful care of the trees and worms and "diligently record" their experience and findings. Domestic raw silk production was further encouraged by heavy tariff on foreign raw materials. The US government ~~has~~ *filled* thus created a favorable environment for the silk industry to grow. Sericulture was viewed as nationalistic pursuit by the industry bodies, whose annual dinners were ~~filled~~ *filled* with government dignitaries who delivered impassioned speeches filled with nationalist and expansionist rhetoric.

Despite these government and private efforts to promote sericulture in the US, silk production and reeling was on the whole unsuccessful in the United States due to the high demand for skilled labor. In a 1912 report to congress, the Secretary of Agriculture reports that even though the US has seen dramatic growth in silk manufacturing

capabilities, and rapid mechanization of the trade, the problem with efficiently reeling silk from cocoons still remains and even high tariffs against foreign raw silk cannot make domestic production viable. Indeed a separate report further states that the protectionist policies are hurting domestic silk fabric manufacturers, who found it hard to compete against European companies when the raw material cost so much.

III. THE SILK INDUSTRY AND WOMEN

ref The emergence of the silk industry in America proved to be rewarding for both men and women. Woman's role became essential in the manufacturing of silk. The founding myth of silk was that it was made by a woman, which may allude to the fact that the process of producing silk was not labor intensive, and fit for women and even children. This gave women and children the opportunity to take part in one of America's growing industries. Sericulture was perhaps the American version of the first British textile cottage industries: an analogous structure to the put-out system that mobilized the productive powers of women around the countryside for proto-industrial manufacturing.

The continued expansion of the silk industry brought about the formation of silk societies for ~~the~~ women. The Women's Silk Association was one of the earliest and most prominent of these groups ^{*awk*} [and in addition organizing regular meetings and conventions, housed and taught young girls how to perform the various tasks used to ensure a successful silk season.] As similar ~~of~~ organizations sprung up around the country, many young girls were ~~being~~ sent to learn how to grow silk, and their role began to displace those of men. With this increase in women's interests came magazines and periodicals that helped to shape the community of women in the silk age. Periodicals like the *Southern Woman's Magazine* and the *Woman's Home Companion* gave women a forum to share tips and facts about silk production and manufacturing and served as an open conduit for communications and exchange among the traditionally domestic Victorian women. The Women's Silk Association hosted the First Annual Silk Exhibit at St. George's Hall, England on January 31st to February 11th 1882, echoing perhaps the boundless wonder and optimism of the Great Exposition of 1851. The exhibit showcased the science and products of sericulture and proved to be a successful step for industrial women. The silk exhibitions would continue for some 25 more years.

*underline (or
italicize titles
magazines/
journals)*

IV. SERICULTURE IN GEORGIA

When Georgia was founded, General Oglethorpe proposed the introduction of silk to the colony since the climate was appropriate for silk production. ^{Moreover,} and Georgia had a large source of cheap and slave labor made up of "savages" and African slaves. However, the cheap and slave laborers were found not to be appropriate for the tedious and skilled task of reeling silk cocoons, and employing white labor meant greatly increased cost of production. [The substantially higher cost of silk production in Georgia as compared with the cost in the Orient and Italy, this combined with the dominance of the local cotton textile production effectively ended the silk industry in Georgia by the late 1700's.] *Good idea/awk. sentence*

A century later, Thomas Magid proposed to restart the Georgian silk industry by establishing a silk colony initially composed of immigrants from Italy, at the time known for producing the best silk of the world. The immigrants skilled in sericulture would start the industry and in time train the locals in the trade. Magid followed through with this endeavor by founding the Sericulture and Manufacturing Company around the end of the 19th century. The colony was located in Habersham County, Georgia, ^{and was} situated one mile South of Tallulah Falls and bordering the Tugalo Falls River. The location was a famous vacation spot of the upper class because of its natural beauty. The colony initially consisted of one hundred Italian families with an average of five people each. They were each granted a 25 acres plot with planted Mulberry trees, a furnished house, farming instruments and food for three months. The entire colony consisted of 2000 acres ^{of} tenant farms, spun and reeling mills, a nursery for mulberry trees, grainier based on the Pasteur [?] system to maintain silk worms throughout the summer, and a Silk and Industrial College. The college provided a comprehensive education in domestic sciences, [literacy and the [?] sciences] as well as extensive training in silk culture and manufacturing. A church, lakes with stocked fish, a bank, and a library all combine to create an integrated, alcohol free company community. If alcohol was found, the family would be removed from the colony. Immigrant families were ~~only~~ responsible for half of the trip cost and would pay ^{for} the balance and their farm (valued at \$1500) with regular installments at ~~a~~ 7% interest. The town was electrically powered from a 3700 hp hydroelectric plant. The families

Hard for Italians, Id. venture.

were responsible for producing the silk cocoons, and Magid's Sericulture and Manufacturing Company promised to buy all cocoons.

Magid wanted to lure the Georgia ^{Ap.}populous into silk production by virtue of the minimal labor actually necessary to produce the raw material. However, despite the appeal of light labor—labor that could be carried out easily while focusing on other capital producing endeavors—the process must be systematic and intelligent. Therefore, Magid made education his first step. A farm was built and served as a kind of experiment station where different systems were proposed and tested. Researchers would record the number of eggs that reared actual worms, for example. He even published a magazine appropriately named “Silk” with U.S. distribution, informing the general public on the industry and providing facts about the silk worm. ~~From~~ ^{described} one of these numerous “Silk” publications, the lifespan of the silk worm ~~is described~~ in detail. The cocoons of the silk worm provide the raw silk. A mother moth or butterfly deposits tiny eggs, hardly visible, in a white mulberry tree (*Morus-Alba*). The eggs hatch and the “Bombyx-Mori” is born. For thirty to thirty-five days, the Bombyx-Mori eats the tender leaves of the white mulberry tree and casts its skin four times—each casting signifying a new age of the worm. The Bombyx-Mori wanders about, finds a comfortable place, and spins the “lofty golden filament” accumulated during feasting time. The filament is spun into a cocoon and the worm changes into a chrysalis, casting its skin a fifth time. The cocoon takes approximately two days to build and once created, the worm enters the “pupa” stage. After ten to fifteen days, the pupa is transformed into a butterfly or moth. Within four days, the female butterfly finds a suitable mate. Following some very intense mating, the male butterfly dies and the female deposits her eggs—approximately 300. After completing her work, she ^{dies} ~~joins the fate of her former mate~~ ^{trans.} ~~trans.~~ With proper education and lots of motivation, Magid was confident that silk would become a dominant industry in Georgia.

The invention of new machinery and the general improvements in mechanization characteristic of the Industrial Age became another strong appeal for the production of silk in Georgia. In particular, the Electric Loom, developed and distributed by W. Pierce Watson of New York, ^{made} ~~enabled the manufacturing of silk to be~~ ^{manufacturing} efficient and ^{fast} ~~speedy~~. The raw silk produced in the United States was criticized for not being of the same quality as

those produced in Italy and other major silk producing areas in Europe and central Asia. With the innovation of Watson, the electric loom was promised to take any durable silk and yield quality fabrics—"fabrics like grandma used to make!" Normally, the silk is loaded with chemicals and gum fills for the sake of cheaper production. The Electric loom avoids this step entirely while still weaving a yard of silk every 35 minutes, unheard of at that time! Watson was so confident in the electric loom that each was inscribed with "Money back" as a guarantee of his goods.

This section needs work. It's jumbled and disorganized.

V. CONCLUSION

The Magid Sericulture Company was an interesting attempt to introduce industry to a traditionally agrarian economy. Magid envisioned a vertically integrated (from raw material to finished products) industrial community that was perhaps a more systematic version of the put-out system. His attempts to using the talents of the old world to mobilize the unskilled workforce of the under-developed South certainly set Magid apart from other industrialists. In theory, this model should have succeeded as the British one for textile. The immediate cause of Magid's failure was a rapid reduction in silk price caused by a sudden flood of cheap raw materials, a flood that the manufactures were not ready to absorb and capitalize upon. But Magid's experiment was not helped by the dominance of southern cotton as the most effective cash crop, or the persistent structural problems with the ill faded American silk industry.

We can certainly find parallels between the sericulture industrialization in the United States and the earlier textile revolution in England. Both are characterized by the application of modern machinery to accomplish traditionally labor and time intensive activities. And both industry had the support of their respective government and the necessary infrastructural and natural conditions to succeed. *However,* But whereas the production of cotton, ~~the raw material for textiles~~ is a relatively simple practice that requires minimum skill, the rearing of silkworms and drawing of silk threads remained difficult tasks despite the onset of the machine age. Expensive imported silk made competitive manufacturing difficult for American industry while the gap in the raw silk production cycle made American sericulture nearly untenable. *For clarity* [These problems within the two coupled industry segments inhibit each other's growth.] Attempts to encourage raw material production

through protectionism inevitably fail^{ed} as the heavy tariffs ~~tend to~~^{ed} hurt domestic manufactures as much as it does foreign raw material producers. Thus the link between raw material production and manufacturing necessary for vertical integration is nonexistent, and in its place is an irreconcilable contradiction between manufacturing and agriculture. This is a stark contrast to the successful American industries in cotton and steel, where excellent conditions for raw material production, refinement and ✓ manufacturing were all present in the country. The silk industry came to America at the wrong time: after the beginning of the American industrial revolution and the decline of the agrarian economy, but some time before the period of rapid globalization, when advances in transportation, and refinements in trade policies would combine to make the sources of raw material irrelevant to a manufacturing based economy.

VI. BIBLIOGRAPHY

"The Magid Papers Collection", Georgia Tech University Archive.

You need to be more specific about your source materials.